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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,881	01/10/2001	Hidenori Usuda	Q62603	6235

7590 06/05/2002
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WASHINGTON, DC 20037-3213

EXAMINER

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,881

Applicant(s)

USUDA ET AL.

Examiner

LAM S NGUYEN

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AC

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1-7, 9, 12-14 are rejected under 35 U.S.C. 102(e) as being obvious by Oda et al. (US 5937152).

Oda et al. discloses a recording apparatus comprising:

dot formation means (FIG. 5, element 21a-d) being divided into a plurality of groups (groups Y, M, C, or K), each of the groups for forming a dot in accordance with a predetermined dot formation condition assigned thereto, the dot formation condition related to monochrome recording or color recording (column 2, line 60 to column 3, line 5);

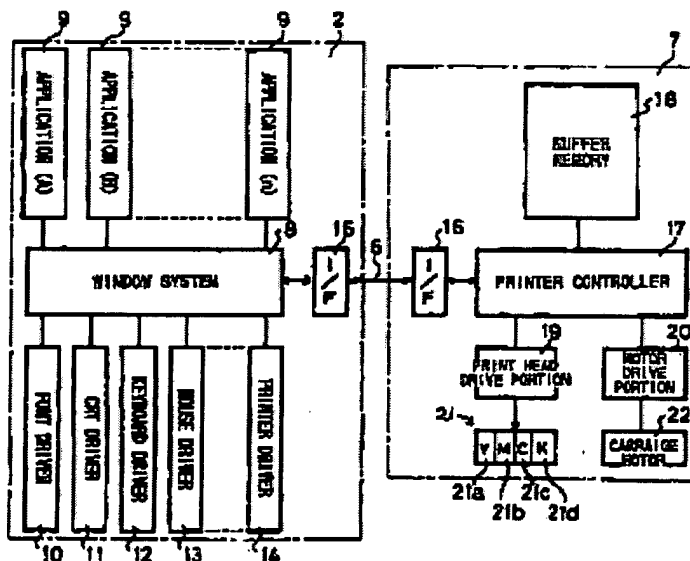
drive means (FIG. 5, element 19) for driving the respective groups in the dot formation means in accordance with record data,

control means (FIG. 5, element 43) for expanding record information into an image in storage means and for transferring record data from the storage means to the drive means;

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fixing signal output means (FIG. 3, element 14) for outputting a mode fixing signal determining whether the dot is formed or not, and for transmitting the mode fixing signal to the drive means associated with a group in the dot formation means in which whether the dot is formed or not is predetermined as the dot formation condition, instead of the record data (column 5, line 64 to column 6, line 11);

mode fixing means for fixing the dot formation condition of the group in the dot formation means, to which the mode fixing signal is transmitted, as determined by the mode fixing signal (column 7, line 54-59: teaching that the PRINT HEAD DRIVE PORTION (FIG. 3, element 19) driving print heads depends on the monochrome/color mode, so the mode fixing means is included inside the PRINT HEAD DRIVE PORTION).



Referring to claim 2: wherein the fixing signal output means (FIG. 3, element 14) outputs the mode fixing signal (in term of "dot image data indicative": column 5, line 64 to column 6, line 11) determining that the dot is not formed to the drive means associated with a group of the dot formation means which is not used for recording (For example: if the

monochrome is selected, only one printhead is used, three others are not used for recording); and wherein the mode fixing means fixes the dot formation condition of the group so as not to form the dot (column 7, line 54-59).

Referring to claim 3: wherein the storage means (FIG. 3, element 18) is provided with storage regions enough for a maximum number of groups of the dot formation means which are used at the same time; and wherein the control means reserves storage regions in the storage means enough for groups used on a present recording (column 8, line 64 to column 9, line 4: teaching that the capacity of the buffer memory (FIG. 3, element 18) can store print data for the multicolor print mode using all groups of the dot formation means).

Referring to claim 4: wherein the storage means is provided with storage regions only enough for a maximum number of groups of the dot formation means which are used at the same time (See Abstract).

Referring to claims 5, 9: wherein the fixing signal output means outputs the mode fixing signal determining that the dot is formed to all the groups in the dot formation means when the predetermined conditions of the respective groups are determined so as to form the dot (column 5, line 64 to column 6, line 11: when the color mode is selected by an operator, the dot image data is provided to all for color groups).

Referring to claims 6, 7: the control means utilizes the excess storage region for a serial transmission of the record data or for another data processing (column 4, line 45 to column 5, line 18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda et al. (US5937152) in view of Ishinaga et al. (US 6290334).

Oda et al. discloses the claimed invention as discussed above except that the drive signal is provided with a shift register for parallel-converting the record data which is serial transmitted; and wherein the mode fixing means is provided on a signal transmission path arranged between the shift register and the dot formation means and keeps data determined by the mode fixing signal in the shift register.

However, Ishinaga et al. discloses that the drive signal is provided with a shift register (FIG. 5, element 11) for parallel-converting the record data which is serial-transmitted (FIG. 15, element 18); and wherein the mode fixing means is provided on a signal transmission path arranged between the shift register and the dot formation means and keeps data determined by the mode fixing signal in the shift register (FIG. 5, elements 1034 and 1041).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to insert the shift register and the mode fixing means as designed by Ishinaga et al. into the PRINT HEAD DRIVE PORTION of Oda et al. 's printhead because such design reduces a number of pads on a substrate, so that a larger number of recording elements can be formed on the substrate as taught by Ishinaga et al. (column 4, line 4-7).

Allowable Subject Matter

3. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The best reference is Oda et al. (US 5937152). Oda et al. discloses that the divided groups of the dot formation means includes a color group for forming a plurality colors of dots including one group of a black dot. However, Oda et al. does not disclose a first black group for forming a black dot on monochrome recording and a second black group for forming a black dot on the monochrome recording and the color recording; and wherein the fixing signal output means outputs the mode fixing signal to the first black group on the color recording, and outputs the mode fixing signal to the color group on the monochrome recording. Therefore, the Oda et al. fails to disclose the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (703)305-3342. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BARLOW can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3432 for After Final communications.

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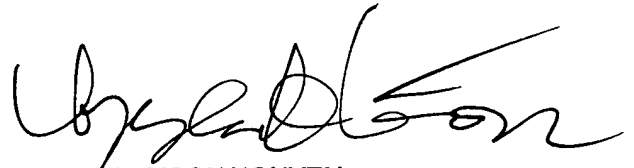
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LN

June 3, 2002

A handwritten signature in black ink, appearing to read 'Lamson Nguyen', written in a cursive style.

LAMSON NGUYEN
PRIMARY EXAMINER